

**Work Order ID 60644**

Page 1

Thursday, July 15, 2010 11:28:04 AM

Item ID:	D3947-3	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Panel, Lower LH Post					
Start Date:	7/15/2010	Start Qty:	1.00		Cust Item ID:	
Required Date:	7/22/2010	Req'd Qty:	1.00		Customer:	
Reference:						
Approvals:	Process Plan:		Date:	10/7/15	Tooling:	
	QC:		Date:		SPC (Y/N):	
					Date:	
				Run	Start	
					Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3947	A								
100	HAND FINISHING THERMOFORMING	0.00							
	HandThermo	Memo							
Hand Finishing Thermoforming	Cut Blanks to fit frame size	0.00							
105	Dry Material	0.00							
	HandThermo	Memo							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE	0.00							
	Temp: 210°F								
	Time IN: 4:30 PM 10/07/18								
	Time OUT: 7:00 AM 10/07/19								

X1 BB 10/07/19

X1 BB 10/07/19

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_






NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			




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Reference:						
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start
	QC:	Date:	SPC (Y/N):	Date:		Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110 	THERMOFORMING MACHINE	0.00							
Thermoform	Memo	0.00							
Thermoforming Machine	1-Machine Set-up								
	2-Pre-heat tool								
	3-Thermoform as per Dwg. D3947-3 and Folio FTA 046 using tool DT9484								
	Dwg. Rev. <u>A</u>								
	Folio Rev. <u>B</u>								
120 	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	Memo	0.00							
Quality Control	Visually inspect for proper formation of each part								
130 	QC8- Inspect parts - second check	0.00							
QC	Memo	0.00							
Quality Control									

X1 BB  
10/07/19

X1 BB 10/07/19  
10/07/19

AB 10-07-22 20

W/O:		WORK ORDER CHANGES						
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Page 3

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Required Date:	7/22/2010	Req'd Qty:	1.00	Customer:		
Reference:						
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start
	QC:	Date:	SPC (Y/N):	Date:		Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140  Thermoform Thermoforming Machine	HAND FINISHING THERMOFORMING  Memo Trim to Finished Dimensions as per dwg D3946-1	0.00  0.00						(X) BB 10/07/22	
150  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo Check dimensions to ensure conformity to drawing tolerances.	0.00  0.00						(X) BB 10/07/22	P.T.O. →
160  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00						(X) BB -3	8/10/12/22

## Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: D3947-3 PAR #: \_\_\_\_\_ Fault Category: Thermoforming NCR: (Yes) No DQA: \_\_\_\_\_ Date: 10/07/28  
 Resolution: Accepted Disposition: USE AS IS QA: N/C Closed Date: 10/07/28

NCR: <u>60644</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>10/07/28</u>	<u>1SD</u>	<u>FLANGES THINNER THAN DRAWING - see F&amp;I. R.C. Process</u>	<u>[Signature]</u>	<u>SEE E-MAIL Attached From DAVIDS. to Chief Eng. 10/7/28 Accepted by Eng.</u>	<u>[Signature]</u> <u>10/07/28</u>	<u>S</u> <u>10/07/28</u>	<u>[Signature]</u> <u>10/07/28</u>	<u>S</u> <u>10/07/28</u>

NOTE: Date &amp; initial all entries

**Work Order ID 60644**

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Thursday, July 15, 2010 11:28:04 AM

Item ID: D3947-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Panel, Lower LH Post

Start Date: 7/15/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/22/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170

Identify as per dwg & Stock Location: 150

0.00



Packaging

Memo

0.00

Packaging

10/07/28

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/07/28 10-7-28

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
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**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 15, 2010 11:28:08 AM

Page 1

Work Order ID: 60644

Parent Item: D3947-3

Parent Item Name: Panel, Lower LH Post

Start Date: 7/15/2010

Required Date: 7/22/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC  
Add Step 105 Dry Material 10/04/21 DL

Ipp Rev B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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MLEXS.093-F6006-07

Purchased

No

100

sf

1,876.541

3.444

3.625263



GE PLASTICS LEXAN SHEET

## Location

## Loc Qty

## Loc Code

therm

1876.541

107574

13.72

111973

30.875

112176

101.2267

114459

1730.7193

1x B 10/07/16

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: "		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	60644
Description: Panel, Lower LH		Part Number:	D3947-3
Inspection Dwg: D3947	Rev: A	Page 1 of 1	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

### THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than "	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: BB Date: 10/07/22

### TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.5	Min	.521	✓		vern	
1.8	Min	1.854	✓		u	
0.050	Min	.047	✓		See Attached Email	
0.065	Min	.072	✓		vern	
22.5	REF	23.0	✓		vern	
10.8	REF	11	✓		vern	

Measured by: BB Date: 10/07/22  
 Audited by: S Date: 10/07/22  
 Prototype Approval: N/A Date: N/A

Rev	Date	Change	Revised by	Approved
A	09.09.15	New Issue	KJ	<u>BB</u>

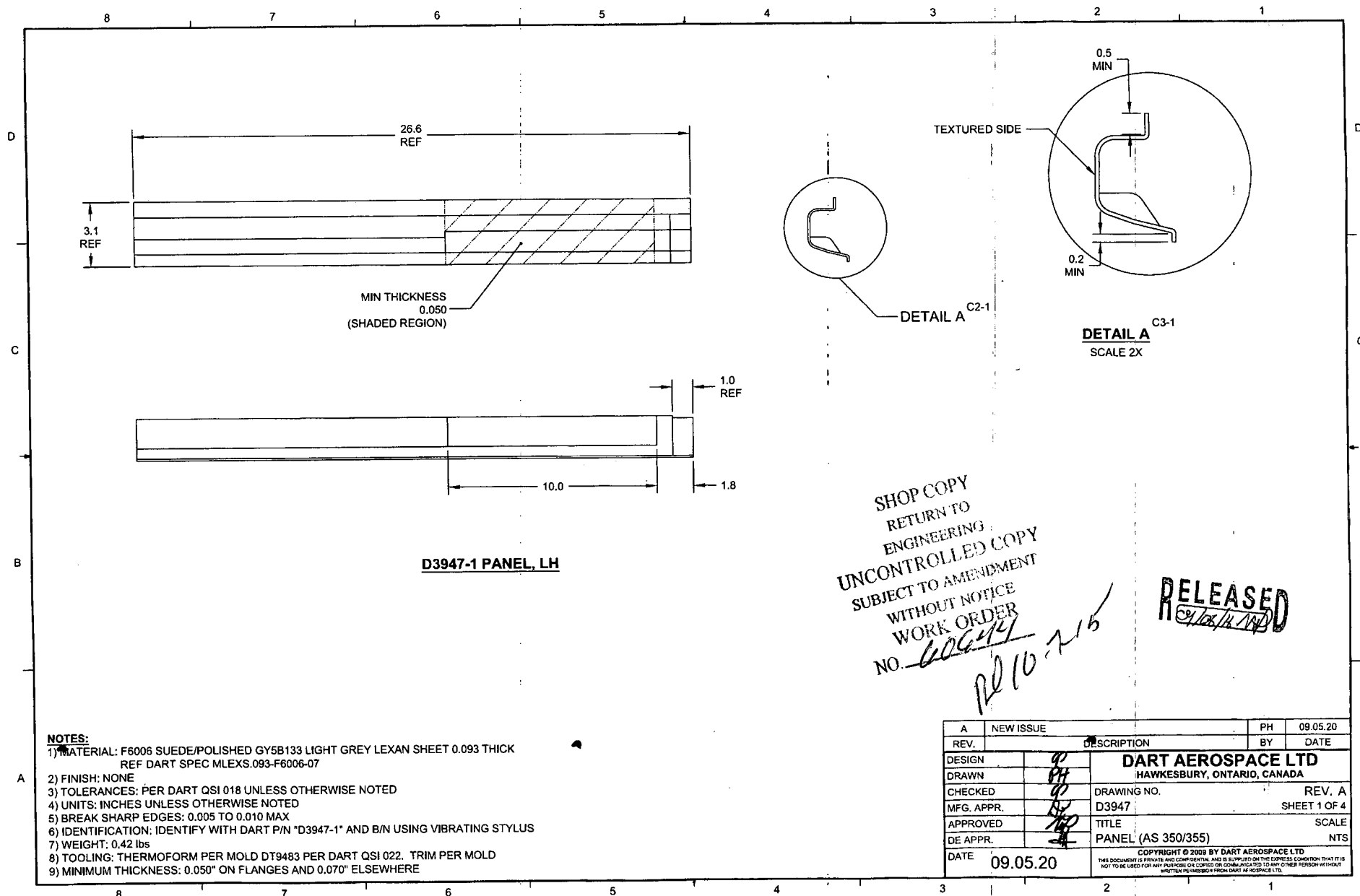
W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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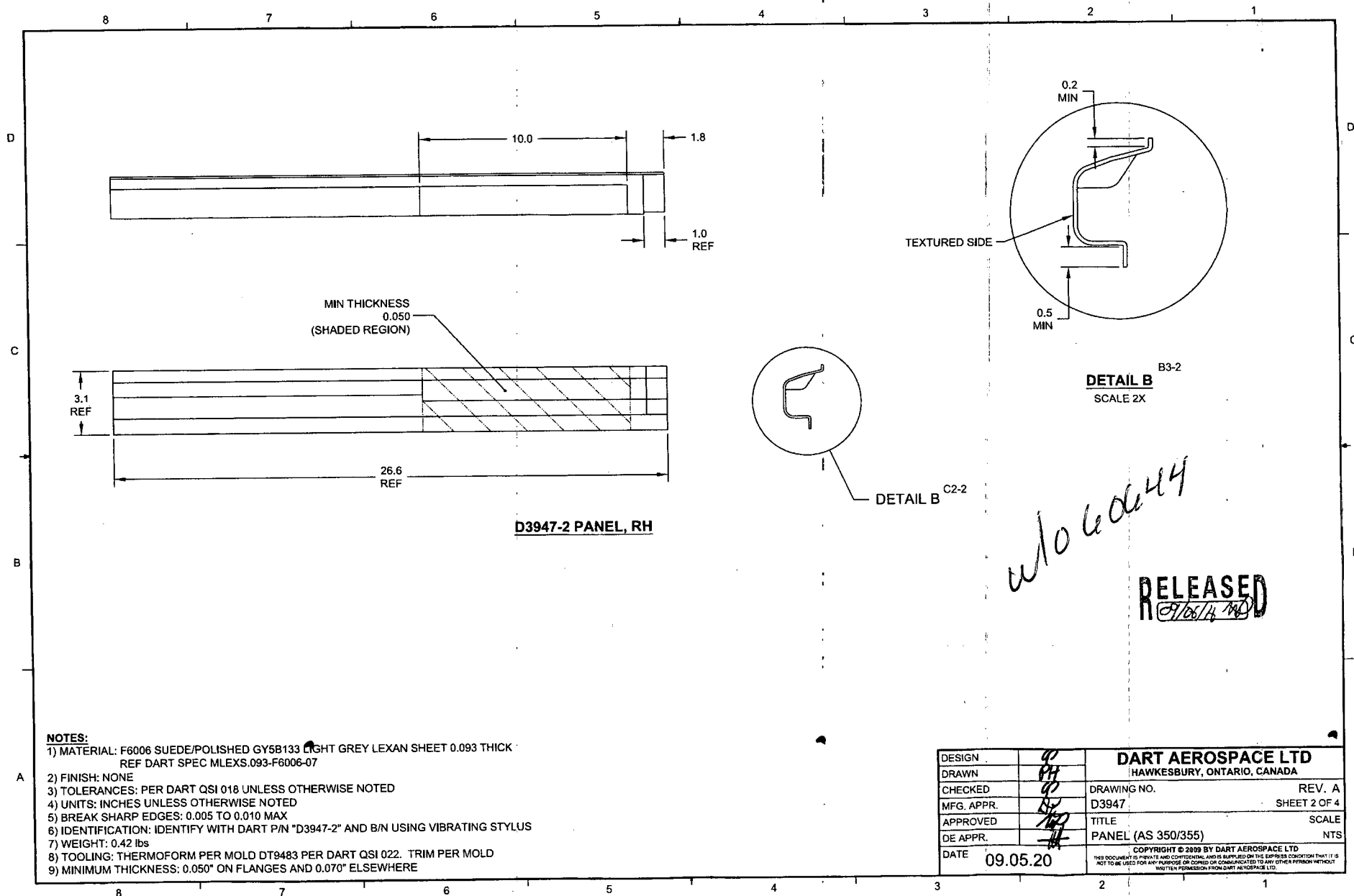
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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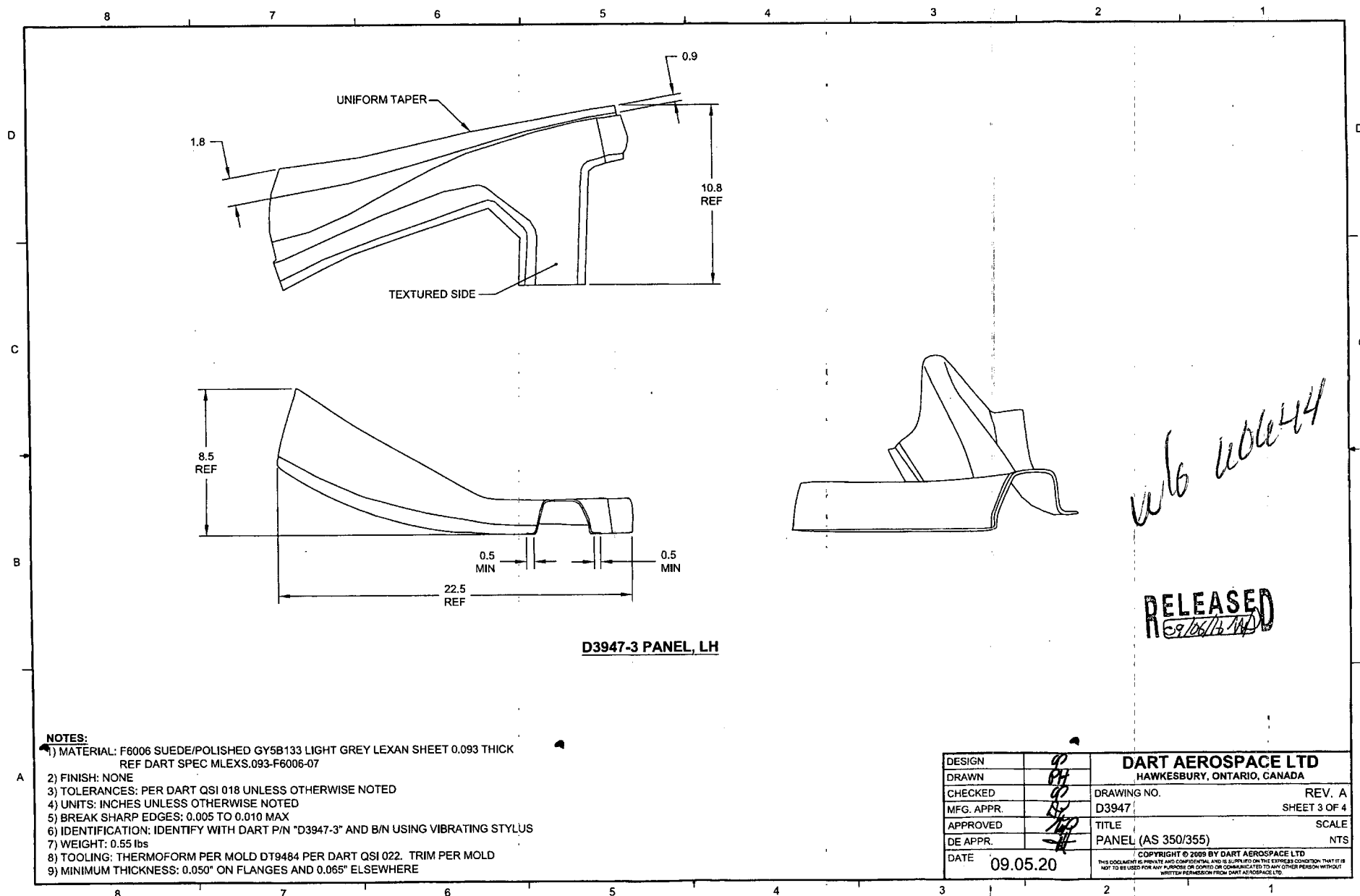
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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*w/b 40644*

**RELEASED**  
09/06/14

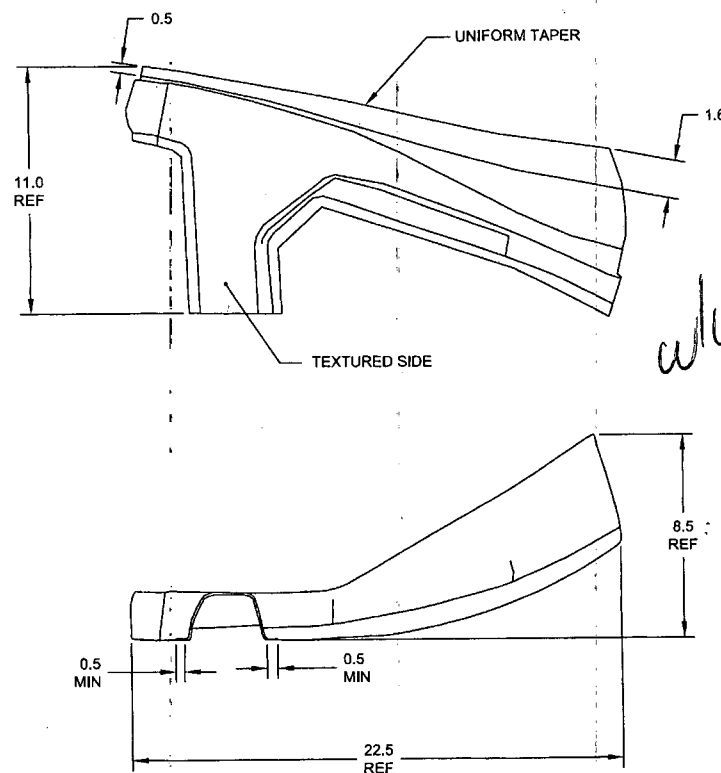
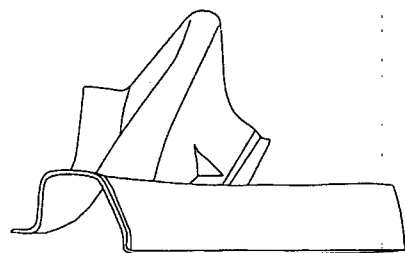
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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*W/O 60644*

**D3947-4 PANEL, RH**

**RELEASED**  
*09/05/20*

**NOTES:**

- 1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK  
REF DART SPEC MLEXS.093-F6006-07
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3947-4" AND B/N USING VIBRATING STYLUS
- 7) WEIGHT: 0.62 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9484 PER DART QSI 022. TRIM PER MOLD
- 9) MINIMUM THICKNESS: 0.050" ON FLANGES AND 0.065" ELSEWHERE

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN	<i>PH</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>PH</i>	D3947	SHEET 4 OF 4
APPROVED	<i>PH</i>	TITLE	SCALE
DE APPR.	<i>PH</i>	PANEL (AS 350/355)	NTS
DATE	09.05.20	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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**NOTE:** Date & initial all entries

**Daryl Leger**

**From:** David Shepherd [dshepherd@dartaero.com]  
**Sent:** Wednesday, July 28, 2010 10:57 AM  
**To:** 'Chris Provencal'  
**Cc:** 'Mike Petsche'; 'Daryl L Leger'; 'L Lacelle'; 'Jason Murdoch'  
**Subject:** RE: NCR D3947-3/-4

Chris,

Based on your assessment below, these parts are acceptable.  
A copy of this email should be attached to the work order in question.

David

---

**From:** Chris Provencal [mailto:cprovencal@dartaero.com]  
**Sent:** Thursday, July 22, 2010 9:29 AM  
**To:** 'David Shepherd'  
**Cc:** 'Mike Petsche'  
**Subject:** NCR D3947-3/-4

RE: 350 Interior Trim Panels, D3947-3/-4

This is the lower door post panel that was recently approved. The thickness of the flanges that insert into the seal is 0.040" MIN instead of the 0.050" MIN from the dwg. They say they're using the same program. They attribute this to the panels being dried for longer.

Based on TR-D350-766-2 Rev. A, the panel was pulled at least 10X more than the req'd loading. Considering the ratio of flange x-sectional inertia would be  $0.05^3/0.04^3 = 2$ , the flange should still be sufficiently strong hold the panel in place.

Is this acceptable?

Chris

No virus found in this incoming message.  
Checked by AVG - www.avg.com

Version: 8.5.441 / Virus Database: 271.1.1/3020 - Release Date: 07/22/10 06:36:00

7/28/2010